

REMARKS**Oath/Declaration**

A new declaration in compliance with 37 CFR 1.67(a) is attached hereto.

Claim Objections

Claim 6 has been updated to correct the reference to IEEE-1394

Claim Rejections Under 102(b)

Claims 1, 2, 4, 7, 8, 11, 13 and 18 presently stand rejected under 35 USC § 102(b) as allegedly anticipated by Caulkins (U.S. Patent No. 6,181,630). This rejection is respectfully traversed.

Claims 1, 17 and 18 are independent, and will be addressed first. The dependent claims will be addressed thereafter.

Claim 1 is directed to a method for portable computer data protection, and, as amended, includes the steps of "(a) communicating between a portable memory drive and a host computer system via a common interface; and (b) managing operation of said portable memory drive through a data management program including the substeps of: (b)(i) storing in said host computer system a value contained in a static register of the portable memory drive, reflecting parameters defining one or more communication links established during initialization between the host computer system and the portable memory drive; and (b)(ii) upon a loss of communication between said portable memory

drive and said computer system, and upon a subsequent recommunication there between, copying said value from said host computer system to said static register, thereby resuming communication using the parameters previously stored in said static register.”

Caulkins ‘630 relates to a back-up and restore technique for **user data** stored on a memory expansion card, in the event of a power loss or other inadvertent shut down. Caulkins ‘630 provides a battery of sufficient capacity to protect volatile memory and to power non-volatile memory for a sufficient period of time to copy the contents of the volatile memory to non-volatile memory. However, Caulkins ‘630 does not provide, among other things, a system for protecting the integrity of a **communication link** when there is a transient loss of **communication** (not merely **power**) between a portable memory drive and a host computer system.

The subject matter of claims 1-12 and 14-18 is very different from Caulkins’ approach. Claim 1 has been amended to clarify, among other things, that the static register stores “parameters defining one or more **communication links** established during initialization between the host computer system and the portable memory drive,” and that “upon **a loss of communication** between said memory drive and said computer system, and upon a subsequent recommunication there between,” the data management program “cop[ies] said value from said computer system to said static register, thereby resuming communication using the parameters previously stored in said static register.” By contrast, Caulkins ‘630 exclusively teaches saving only

the **user data** in non-volatile memory, and only **after** the loss of power, but does not save the “parameters defining one or more communication links established during initialization between the host computer system and the portable memory drive” nor does it do so prior to a “loss of communication” thereby allowing resumption of communication “using the parameters previously stored in said static register,” as called for by claim 1.

According to certain embodiments disclosed in the instant application, a method is provided for “resuming” the existing **hardware connection** between a computer and removable memory device after an accidental disconnection, such that after the subsequent reconnection, the hardware registers (e.g., the data pipeline) will be restored to their pre-existing state. Thus, according to claim 1, a value related to the hardware connection which is normally written to a register of the portable memory drive (e.g., during initialization) will also be stored in local memory of the host computer by a management program. Upon loss of communication and a subsequent reconnection of the portable memory drive, the saved value is again written to the portable drive to re-create the pre-existing setup of the hardware, so as to restore the existing **hardware links** to the user data without the need for a complete re-initialization. Caulkins’ teaching do not discuss restoration of hardware connections nor ways to restore non-volatile storage after accidental disconnection, and as such, Caulkins’ device would be prone to the very communication loss problems addressed by the instant application (e.g., loss of connection by an operating system or application).

It is therefore respectfully submitted that Caulkins '630 fails to anticipate, or render obvious, the subject matter of claim 1, and that claim 1 should be allowable over Caulkins '630 and the other cited items.

Independent claim 7 should be allowable for similar reasons. Claim 7 is directed to "a portable data storage system" comprising "a portable mass storage device having a static register and a common interface for connection to a computer system, said computer system providing normal operating power to the portable mass storage device via said common interface, said static register containing a value reflecting parameters defining one or more communication links established during initialization between the host computer and the portable memory drive; an energy storage device in electrical communication with said static register such that said static register will retain a last stored value throughout a transient disconnection of said common interface; and a computer program stored on a storage media for execution by said computer system such that upon reconnection of said common interface after said transient disconnection, said computer program automatically rebuilds the one or more communication links using said last stored value thereby allowing resumption of communication with said portable mass storage device."

Claim 7 has been amended, among other ways, to clarify that the static register of the portable mass storage device contains "a value reflecting parameters defining one or more communication links established during initialization between the host computer and the portable memory drive," and

that "upon reconnection of said common interface after said transient disconnection, said computer program automatically rebuilds the one or more communication links thereby allowing resumption of communication with said portable mass storage device." As noted above, Caulkins '630 is concerned with saving only user data, and does not store "parameters defining one or more communication links" in a static register nor does it use the "last stored value" to "automatically rebuild" the communication links thereby "allowing resumption of communication with said portable mass storage device," as recited in claim 7. It is therefore respectfully submitted that claim 7 is not anticipated, nor rendered obvious, by Caulkins '630.

Claims 2, 4, 8, 11, and 13 depend from claims 1 or 7, respectively; these dependent claims should therefore be allowable for similar reasons. Moreover, these dependent claims have additional features rendering them independently patentable over Caulkins '630.

For example, claim 4 recites that the "static register values are stored on a hard drive in said computer system." Since the static register values, according to claim 1, comprise "parameters defining one or more communication links established during initialization between the host computer system and the portable memory drive," and because Caulkins '630 is only concerned with saving user data, it is respectfully submitted that Caulkins '630 cannot anticipate claim 4, nor render it obvious.

Claim 8 recites that "upon detecting a transient disconnection, said computer program provides a warning notification wherein said computer

operator is prompted to reconnect said mass storage device.” While Caulkins ‘630 has a vague “alarm condition” upon loss of **power**, it does not teach or suggest a computer program that provides a warning notification upon a transient “disconnection” nor does it prompt the operator to “reconnect” the mass storage device, as recited in claim 8. Indeed, under most ordinary circumstances Caulkins’ memory expansion card will be fully connected to the host computer when a loss of power occurs.

Claim 11, as amended, recites that the computer system “includes memory” and that “a copy of data written to said portable mass storage device is also concurrently written to said memory on a continuous basis.” While Caulkins ‘630 writes a copy of data to non-volatile memory that may be on the host computer only when power is disconnected, Caulkins ‘630 fails to disclose or suggest that a copy of data written to the portable mass storage device is also concurrently written to said memory on a continuous basis. A device constructed according to the features provided by claim 11 may, for example, allow recovery from a transient interruption to the hardware link, an advantage not taught or suggested by Caulkins ‘630, nor the other cited items.

The First 103(a) Claim Rejection

Claims 3, 12, 14 and 15 presently stand rejected under 35 USC § 103(a) as allegedly unpatentable over Caulkins '630, in combination with Ohran et al. (U.S. Patent. No. 6,871,271). This rejection is respectfully traversed.

Because claims 3 depends from claim 1, and because claims 12 and 14 depend from claim 7, those claims should be allowable for at least the same reasons as explained for claims 1 and 7, respectively. Moreover, claims 3, 12 and 14 include additional features which render them independently allowable.

For example, claims 3 and 12 recite that the static register values are stored in "random access memory."

Claim 14 depends from claim 11 (which recites that computer system includes memory and that "a copy of data written to said portable mass storage device is also concurrently written to said memory on a continuous basis"), and further recites that the computer program "is configured to compare the data stored in said portable mass storage device with the data stored in said memory and to copy data from said memory to said mass storage device to correct any differences." In contrast, Ohran '271 does a periodic back up of a mass storage device *after* the data has been stored in mass storage, not concurrently. Ohran '271 is only concerned about restoring data problems which may occur from bad data writes or corrupt data, with no concern in particular for the interface connection. Claim 14, on the other hand, provides a solution for problems which arise from the interface itself, such as, e.g., mechanical disconnects.

For similar reasons, independent claim 15 should also be allowable over the proffered combination of Caulkins '630 and Ohran '371. Claim 15 is directed to a "portable data storage system" comprising a "computer system having memory; a portable mass storage device having a common interface for connection to said computer system and having a static register; and a computer program stored on a storage media for execution by said computer system such that data written to said portable mass storage device is first written to said memory such that said computer program will direct said program to compare data stored in said memory to data stored in said portable mass storage device and correct the data stored in said portable mass storage device when a difference is found."

Again, Ohran '271 does a periodic back up of a mass storage device *after* the data has been stored in mass storage, but is not directed to preserving the integrity of a data link with a portable mass storage device, and does not operate such that "data written to said portable mass storage device is *first* written to said memory," thereby providing a basis for subsequent comparison and correction of data that does not get communicated properly over the hardware link.

It is therefore respectfully submitted that claims 3, 12, 14 and 15 should be allowable over Caulkins '630 and Ohran '271.

The Second 103(a) Claim Rejection

Claims 5, 6, 9, 10, 16 and 17 presently stand rejected under 35 USC § 103(a) as allegedly unpatentable over Caulkins '630, in combination with Lin et al. (U.S. Patent. No. 6,614,768). This rejection is respectfully traversed.

Because claims 5 and depend from claim 1, claims 9 and 10 depend from claim 7, and claims 16 and 17 depend from claim 15, those dependent claims should be allowable for at least the same reasons as explained for claims 1, 7, and 15, as the case may be.

Reservation of Right to Challenge Cited Items

While Applicants have elected to respond to the Office Action by making various amendments and/or arguments as set forth herein, this should not be construed as an admission that the cited items constitute prior art or otherwise provide an enabling disclosure. Applicants reserve the right to challenge the sufficiency of any of the cited items as prior art at a later point in time, including in any post-issuance proceeding or suit, if appropriate.

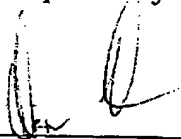
New Claims

New claims 19-23 have been added. Claims 19-21 are independent, and claims 22 and 23 depend from claim 21. These claims have been added after careful study of the cited items and are believed to be allowable thereover.

Request for Allowance

In view of the above, it is submitted that the current application stands in condition for final allowance. Early and favorable action is, therefore, earnestly solicited.

Respectfully submitted,



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